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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,939	10/23/2001	Moshe Rock	952/40	2358

26161 7590 05/07/2003

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BOSTON, MA 02110

EXAMINER
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BOYD, JENNIFER A

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 05/07/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

10/047,939

Applicant(s)

ROCK ET AL.

Examiner

Jennifer A Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rock et al. (US 5,547,733) in view of Hunneke et al. (US 5,636,533).

Rock is directed to a plaited double-knit fabric (Title).

As to claim 1, Rock teaches a composite fabric including a inner fabric layer made of a yarn comprising a plurality of fibers primarily of polyester which has been rendered hydrophilic, and an outer fabric layer of polyester which has also been rendered hydrophilic. The inner fabric layer and outer fabric layer are formed concurrently by knitting a plaited construction so that the layers are distinct and separate, yet integrated one with the other (Abstract). Preferably, the surface of the inner fabric layer is lightly sanded, brushed or napped in order to slightly raise the fabric surface (column 4, lines 35 – 40).

As to claim 2, Rock teaches that the inner fabric layer has a raised surface (column 4, lines 35 – 40), but does not mention that the outer fabric layer has a raised surface implying that the outer fabric layer is flat.

As to claim 3, Rock teaches that the outer fabric layer can comprise cotton or rayon (column 4, lines 67 – 68).

As to claim 4, Rock teaches that the fabric can be a weft knit such as two-end fleece, three-end fleece, terry with regular plaiting, and double terry (column 3, lines 56-58).

As to claim 5, Rock teaches that the inner fabric layer comprises 30 – 70% by weight of the fabric and the outer fabric layer comprises between 70 – 30% by weight of the fabric.

As to claim 6, Rock teaches that inner fabric layer comprises polyester (Abstract).

As to claim 7, Rock teaches that the outer fabric layer comprises polyester (Abstract), which is known in the art to be a synthetic fiber.

As to claim 8, Rock teaches that the denier of the yarns fibers of the inner fabric layer and the outer fabric layer are in a ratio of between about 1.45:1 to 1:1 (column 3, lines 60 – 65).

As to claim 9, Rock teaches that the denier ratio of the yarn of the first inner fabric layer and the second outer fabric layer is between 1:1.10 and 1:5.0 (column 4, lines 5 - 15).

As to claim 10, Rock teaches that the yarn fibers of the inner fabric layer range between 1.5 denier and 2.5 denier and the yarn fibers of the outer fabric layer are between 1.5 denier and 2.5 denier (column 4, lines 20 – 25).

As to claim 11, the denier of the yarn of the outer fabric layer is between 150 and 200 denier and the yarn of the inner fabric layer is between 50 and 150 denier (column 4, lines 25 – 30).

As to claim 13, the limitation of “constructed by means of tipped and tipless sinkers, high and low sinkers or a combination thereof” is not given any patentable weight because the means does not impact the final product.

As to claim 1, Rock teaches the claimed invention except for that the raised surface can be in the form of a plurality of channels.

Hunneke et al. is directed to a fabric with an integral thermal layer (Title). Hunneke teaches inner and outer knitted layer which are joined by interlock stitches to form a composite fabric (Abstract). Each layer comprises a plurality of yarns which may be made of any natural or synthetic fiber or combination thereof (column 2, lines 5 – 8). The inner thermal layer has alternating air pockets and ribs, equated to Applicant's "plurality of channels", arranged in staggered rows (column 1, lines 25 – 30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to create the double-knit fabric of Rock with the "plurality of channels" as suggested by Hunneke et al. motivated by the desire to create a fabric with a thermal inner layer having inherent insulating properties due to the air pockets and ribs (Hunneke, Abstract).

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rock et al. (US 5,547,733) and Hunneke et al. (US 5,636,533) as applied to claim 1 above, and further in view of Conway (US 5,906,876).

Rock in view of Hunneke teaches the claimed invention except that the inner fabric has both horizontal and vertical channels.

Conway is directed to an absorbent fabric and undergarments incorporating the fabric (Title). Conway teaches a layered knitted fabric comprising hydrophobic first yarns and hydrophobic or hydrophilic second yarns. The knitted layer of first yarns has channels of

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different shapes, patterns and designs. The channels, for instance, can take the form of cross-crossing lines, which would create horizontal and vertical channels (column 2, lines 1 – 25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to create the fabric of Rock in view of Hunneke with horizontal and vertical channels as suggested by Conway motivated by the expectation of a better insulating properties and wicking capabilities of the composite fabric due to a higher percentage of raised fabric.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
Jennifer Boyd  
May 5, 2003

